

## ABSTRACT

5           In a motor vehicle driveline having an  
automatic transmission driveably connected to a transfer  
case whose output is continually connected to a first  
output, a clutch, selectively engaged in response to a  
control signal, driveably connects a second output to the  
10 first output. A digital computer continually monitors  
the occurrence of a change of clutch slip, input torque  
and a torque rate change to control the torque  
transmitted by the clutch to the second output. The  
control causes the clutch to transmit torque to the  
15 second output having a constant fraction of the input  
clutch torque and another portion that is proportional to  
the clutch slip. This result simulates the torque slip  
characteristics produced by transfer case having both a  
center differential mechanism and a viscous clutch.

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